



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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December 5, 2013

Ms. Nuria Muniz
NPL Coordinator
Superfund Division, MC SR-6J
U.S. EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3507

Dear Ms. Muniz:

Re: Preliminary Assessment
Ranney Well Field Ground Water
Plume
Anderson, Madison County
CERCLIS ID# INN000510915
AI# 41607

SITE SUMMARY

The Indiana Department of Environmental Management (IDEM) under a cooperative agreement with the U.S. Environmental Protection Agency (U.S. EPA) has conducted a Preliminary Assessment (PA) on the Ranney Well Field, located in Anderson, Madison County, Indiana. The PA was conducted to determine if the site warrants further investigation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The City of Anderson Water Department is classified as a community water system and serves a population of 58,400 from a system of 17 wells that supply water to two (2) water treatment plants (Lafayette and Wheeler). The Ranney Well Field contains eight (8) municipal wells which supply unfinished water to the Wheeler Water Treatment Plant. All eight (8) wells are operated daily and the supplied unfinished water is manifolded at the Wheeler Water Treatment Plant prior to distribution. Elevated Volatile Organic Compound (VOC) levels were detected in the unfinished water in 1988-1992 and the finished water in 2004, 2005, 2006, 2010, and 2011. The elevated VOC levels in the Wheeler Water Treatment Plant have not exceeded the U.S. EPA drinking water Maximum Contaminant Level (MCL). The Wheeler Water Treatment Plant supplies sixty percent (60%) of the City of Anderson's daily water supply.

There are a total of 131 private wells located within a 2 mile radius of the Ranney Well Field Center (RWF Center). Residential wells and wells owned by the City of



A State that Works

Anderson make up the largest percentage of this total, 38% and 34%, respectively. There are five (5) wells owned by dry cleaners located west-southwest and north of the RWF Center. There are six (6) wells located within ¼ mile radius from the RWF Center.

On December 11, 1992, the Anderson Water Utility submitted a VOC Vulnerability Assessment for the Lafayette Well Field and the Ranney Well Field. The assessment indicated that between 1988 and 1992, VOCs were detected in five wells: Ranney #1, Ranney #2, Ranney #4, Ranney #5, and Lawler. The Lafayette Water Treatment Plant wells did not indicate elevated VOCs. The assessment lists nine (9) possible sources for the VOC contamination noted in the Ranney Well Field. Six (6) of the possible sources are gasoline underground storage tanks, however, three (3) possible sources are old landfills. The locations for these landfills are estimated as being right next to Ranney #3, Ranney #5, and Ranney #6. A review of Anderson Telephone Books for the years 1959, 1975, 1981, and 1985 revealed forty (40) dry cleaners and forty-six (46) auto body repair/paint businesses within a 2 mile radius of the RWF Center.

On August 7, 2013, the Site Investigation Program sampled the unfinished water of six (6) wells: Ranney #1, Ranney #2, Ranney #4, Ranney #5, Elder #1, and Elder #2 for VOCs. The groundwater sample results indicated concentrations of tetrachloroethylene (PCE) in Ranney #5 at 5.6 parts per billion (ppb), trichloroethylene (TCE) in Ranney #1 at 11 ppb, and vinyl chloride (VC) in Ranney #4 at 2 ppb, at or above their respective MCL levels. All other detected levels of chloromethane, TCE, VC, cis-1,2-DCE, and 1,1-dichloroethane (DCA) were below their respective MCL levels. The most likely pathway of concern for Anderson residents would be the ground water pathway.

If you have questions regarding the contents of this correspondence, please contact me at (317) 232-3220 or at lmccclure@idem.in.gov.

Sincerely,



Linda L. McClure
Senior Environmental Manager
Site Investigation Program
Federal Programs Section
Office of Land Quality

LLM:bl

cc: Denise Boone, U.S. EPA
Frances Dean, U.S. EPA
Rex Osborn, IDEM

PRELIMINARY ASSESSMENT REPORT

**RANNEY WELL FIELD GROUND WATER PLUME
ANDERSON, INDIANA
MADISON, COUNTY
CERCLIS #: INN000510915**

Prepared by:
Linda L. McClure


INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF LAND QUALITY
FEDERAL PROGRAMS SECTION
SITE INVESTIGATION PROGRAM

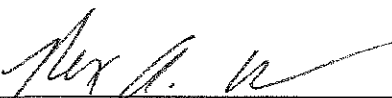
December 5, 2013

Signature Page

Preliminary Assessment Report

RANNEY WELL FIELD GROUND WATER PLUME
ANDERSON, INDIANA
MADISON, COUNTY

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SECTION 1.0 INTRODUCTION

The Indiana Department of Environmental Management (IDEM), Office of Land Quality (OLQ), Site Investigation Program, under a Cooperative Agreement (CA) with the United States Environmental Protection Agency (U.S. EPA), Region V Office, has been funded to perform Preliminary Assessments (PA) at certain sites listed in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). This work is conducted under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (also known as Superfund), and the Superfund Amendments and Reauthorization Act (SARA) of 1986.

The primary objectives of the PA are to collect readily available information and conduct a site and environs reconnaissance, to distinguish between sites that pose little or no threat to human health and the environment and sites that require further investigation, and to identify sites requiring assessment for possible emergency response actions.

On March 7, 2013, the Site Investigation Program staff was given approval by the U.S. EPA to conduct a PA on the Ranney Well Field Ground Water Plume located in Anderson, Madison County, Indiana. This approval was based on the results of a Pre-CERCLIS Screening (PCS). There are two (2) well fields which serve the City of Anderson; however, further investigation has determined that the Ranney Well Field (also known as the Collector Well Field) has had elevated levels of Volatile Organic Compounds (VOCs) detected for an extended period of time in the unfinished water and more recently in the finished water. Information contained in this report will be used to evaluate the Ranney Well Field to support a site decision regarding the need for further Superfund action, including the possibility for the Ranney Well Field Ground Water Plume to be considered for inclusion on the National Priorities List (NPL) of hazardous waste sites.

SECTION 2.0 SITE BACKGROUND

Section 2.1 Site Description

The City of Anderson encompasses a 41.48 square mile area and is located in Madison County in parts of four townships: Anderson, Union, Richland, and Lafayette. According to the 2010 United States Census, the City of Anderson has a population of 56,129. The Anderson Water Department owns and operates the Lafayette Water Treatment Plant and the Wheeler Water Treatment Plant. The Ranney Well Field supplies unfinished water to the Wheeler Water Treatment Plant.

The Wheeler Water Treatment Plant is located at 533 Wheeler Avenue, Anderson, Anderson Township, Madison County, Indiana, 46016 (Figure 1 in Attachment A). An alternate address for this location is 550 Baxter Road, Anderson, Indiana.

Wheeler Water Treatment Plant Specific Site Information

Latitude and Longitude: 40° 06' 19.24", -85° 40' 20.59"
U. S. Geological Survey Topographic Map (7.5 Minute Series): Anderson South Quadrangle
Land Description: Township 19 North, Range 8 East, Section 18
Parcel Number: 48-12-18-900-001.000-003

The Ranney Well Field is located north of the Wheeler Water Treatment Plant and is roughly bordered on the north by East Cross Street, the east by Killbuck Creek and the West Fork of the White River, to the south by East 8th Street, and to the west by Jackson Street/Broadway Street (Figure 2 in Attachment A).

Ranney Well Field Specific Site Information

Latitude and Longitude (Ranney Well Field Center): 40° 07' 19.40", -85° 40' 26.86"
U. S. Geological Survey Topographic Map (7.5 Minute Series): Anderson North Quadrangle and Anderson South Quadrangle
Land Description (within): Township 19 North, Range 8 East, Section 6 and Township 19 North, Range 7 East, Sections 1 and 12
Parcel Numbers: 48-11-12-401-005.000-003 (Ranney #6), 48-11-12-103-002.000-003 (Ranney #5), 48-11-12-101-024.000-003 (Ranney #4), 48-11-01-800-002.000-003 (Ranney #3), and 48-12-06-200-007.000-003 (Ranney #1, Ranney #2, Elder #1, and Elder #2)

The Ranney Well Field is located in a predominately mixed residential, industrial, and commercial area. There are seven (7) schools and one (1) university located within a 2 mile radius of the center of the Ranney Well Field (RWF Center). The closest is Anderson University located approximately .9 miles to the southeast. There is one (1) daycare and two (2) hospitals located approximately 1.8 miles from the RWF Center.

Section 2.2 Site History

The Wheeler Water Treatment Plant was built in or around 1900 with the Norton Wells installed in the same timeframe and the Ranney Wells installed in the 1940s or 1950s. The Ranney Well Field extends along the west bank of two waterways and, in the past, to the east of the Chicago, St. Louis & Pittsburgh Railroad.

The January 1886 and 1900 Sanborn Fire Insurance Maps indicate that the area west of the West Fork of the White River (near Killbuck Creek) was once used by the Mathes Carriage Factory, E.B. Price Saw Mill, E. G. Vernon Grain Elevator, and the Chicago, St. Louis & Pittsburgh Railroad Depot and locomotive house. In November 1934, the area was occupied by the F. C. Cline Lumber Company – Mill & Lumber Yard, and E.G. Vernon & Son Coal & Builder Supplies. The Chicago, St. Louis & Pittsburgh Railroad still existed but the Depot had become a freight warehouse.

The September 1895 Sanborn Fire Insurance Map indicates that the area where Killbuck Creek joins the West Fork of the White River was once used by the Killbuck Mill, Hollingsworth & Sons Slaughterhouse, and a “Car” and “Power” House. In November 1934, the Shadyside Park is present with no other businesses.

The 1900 Sanborn Fire Insurance Map shows the Anderson Water Works Pumping Station & Electric Light Plant (Wheeler Water Treatment Plant) for the first time. The Sanborn Fire Insurance Maps did not extend far enough north to include the location for Ranney #1, Ranney #2, Elder #1, and Elder #2.

On May 20, 1983, the Anderson Water Utility sent a letter to the City of Anderson, Water Supply Section, discussing a landfill being established near Killbuck Creek. A review of IDEM records determined that this landfill was referred to as Mallard Lake Landfill and was never built. However, IDEM records do indicate that there was a transfer station near an old dump south of the West Fork of the White River and west of Killbuck Creek. This location concurs with the location identified in the 1992 VOC Vulnerability Assessment submitted by the Anderson Water Utility.

In 1991, the City of Anderson created the Killbuck Wetlands on land reclaimed from an auto salvage and junkyard. This wetland is located just east of Ranney #4 on the east side of Killbuck Creek.

On December 11, 1992, the Anderson Water Utility submitted a VOC Vulnerability Assessment for the Lafayette Well Field and the Ranney Well Field. This assessment lists nine (9) possible sources for the VOC contamination noted in the Ranney Well Field. Six (6) of the possible sources are gasoline underground storage tanks, however, three (3) possible sources are old landfills. The locations for these landfills are estimated as being right next to Ranney #3, Ranney #5, and Ranney #6 (See Map labeled “A” in Attachment B). The Lafayette Water Treatment Plant wells were included in the assessment and did not indicate elevated VOCs (See Map labeled “B” in Attachment B).

IDEM received an anonymous complaint regarding the former ABC Rail Corporation site. The date the complaint was received is unknown. The complainant stated that ABC Rail Corporation coated railroad ties by dipping the ties in a lagoon filled with creosote. The complaint alleges the lagoon was filled in when the facility closed. An IDEM Industrial Waste Compliance staff member inspected the site on May 3, 2004, as part of a foundry initiative, and found the facility to be out of business. There was no mention of a lagoon being present. Drew's Parts, an auto salvage business, now operates at the address. This site is located less than one mile north-northeast of Ranney #1.

A review of Anderson Telephone Books for the years 1959, 1975, 1981, and 1985 revealed forty (40) dry cleaners and forty-six (46) auto body repair/paint businesses within a 2 mile radius of the RWF Center. 1988 was the first documented year that elevated VOCs were detected in the Ranney Well Field; therefore, years previous to 1988 were researched.

A review of IDEM records show that within a one mile radius of the RWF Center there are eleven (11) registered underground storage tanks, ten (10) leaking underground storage tanks, two (2) old petroleum spills, two (2) hazardous waste generators, and one (1) State Cleanup site.

A review of Google Earth Satellite Images from 1998 to present did not indicate any unusual use for the area around the Ranney Well Field. A review of the Indiana Historical Aerial Photo Index (IHAPI) for 1939, 1950, and 1969 did not indicate any unusual use for the area around the Ranney Well Field.

SECTION 3.0 FIELD INVESTIGATION ACTIVITIES

Section 3.1 Reconnaissance and Inspection

On August 7, 2013, IDEM Site Investigation Program Staff conducted a sampling event to sample the Ranney Well Field wells for VOCs. An in-depth discussion of the results obtained from the August 7, 2013 sampling event is located under Section 4.1.2 of this report. During this sampling event, a Global Positioning System (GPS) unit was used to determine the exact location for each of the Ranney Wells (active and inactive).

Section 3.2 Past Environmental Investigations

On December 11, 1992, the City of Anderson sent a VOC Vulnerability Assessment Worksheet to IDEM (Attachment B). This assessment indicated that between 1988 and 1992, VOCs were detected in five wells: Ranney #1, Ranney #2, Ranney #4, Ranney #5, and Lawler.

On May 26, 1999, the Anderson Water Department was issued a permit for the installation of three (3) air strippers to reduce VOCs in the finished water at the Wheeler Water Treatment Plant to below the U.S. EPA Maximum Contaminant Levels (MCLs). The installation was completed in 2000.

In November 2011, IDEM's Office of Water Quality, Ground Water Section, contacted the Site Investigation Program regarding elevated levels of trichloroethylene (TCE), tetrachloroethylene (PCE), and cis-1,2-dichloroethylene (cis-1,2 DCE) in the finished water of the Wheeler Water Treatment Plant. These levels had not exceeded the MCL. In 2013, it was confirmed that there are actually eight (8) wells that supply water to the Wheeler Water Treatment Plant and not seven (7) as stated in the March 7, 2013 PCS.

SECTION 4.0 MIGRATION PATHWAYS

Section 4.1 Ground Water

The City of Anderson Water Department is classified as a community water system and serves a population of 58,400 from a system of 17 wells that supply water to two (2) water treatment plants (Lafayette and Wheeler). The target population in the 4 mile radius around the RWF Center is represented in Figure 3 in Attachment A. The Ranney Well Field supplies unfinished water to the Wheeler Water Treatment Plant which showed elevated VOC levels in the unfinished water in 1988-1992 and the finished water in 2004, 2005, 2006, 2010, and 2011. The elevated VOC levels in the Wheeler Water Treatment Plant have not exceeded the MCL. The Anderson Water Department Plant Maintenance Foreman stated on October 10, 2013, that the Wheeler Water Treatment Plant supplies sixty percent (60%) of the City of Anderson's daily water supply or 32,400 when based on a population total of 54,000 (Attachment C).

The Anderson Water Department owns and operates eight (8) municipal wells located within 1.8 miles of the Wheeler Water Treatment Plant. Four (4) of the eight (8) wells are Ranney Wells. Ranney wells have a single central withdrawal point fed by screened conduits (radial arrangement) which extend horizontally into the surrounding water-bearing alluvium. All eight (8) wells are operated daily and the supplied unfinished water is manifolded at the Wheeler Water Treatment Plant prior to distribution. Attachment D provides the SDWIS/State Water System Details for the Anderson Water Department. The nearest wells are the Norton #1 and Norton #2 wells, completed in limestone bedrock from 89 feet-below ground surface (ft-bgs) to 350 ft-bgs. VOCs have never been detected in the Norton #1 and Norton #2 wells. The remaining wells are set at varying depths within the unconsolidated glacial outwash sand and gravel at depths of 32 to 50 ft-bgs. Three (3) of the wells are set adjacent to the West Fork of the White River and the remaining five (5) are adjacent to Killbuck Creek. The wells are screened at varying depths with six (6) wells drawing water from the unconsolidated surficial aquifer and two (2) wells completed in the underlying bedrock.

Four (4) additional wells have either been abandoned or classified as inactive in the Ranney Well Field. Ranney #3 was abandoned in the late 1960s due to hydrocarbon contamination. The city still owns the land where this well is located. Ranney #6 was abandoned in the 1960s due to a leaking underground storage tank. The City of Anderson no longer owns the land where this well is located. The Lawler well was placed as inactive in 2005 and replaced by Elder #1. The City of Anderson stopped using Lawler due to an error in the installation of the well. Norton #3 was abandoned in the 1980s after the casing collapsed. Attachment E provides details on each individual well in the Ranney Well Field.

The Ranney Well Field is located in both a 5-year and a 10-year Wellhead Protection Area (WHPA). The City of Anderson received approval for their "*Phase I Wellhead Protection Plan*" on February 28, 2005.

The U.S. EPA Safe Drinking Water Information System/State (SDWIS) database lists the primary water source for the Wheeler Water Treatment Plant as “ground water under the influence of surface water.” In 2009, IDEM designated four (4) Ranney Well Field wells (Ranney #1, Ranney #2, Ranney #4, and Ranney #5) as “ground water under the influence of surface water.”

A review of the SDWIS database (March 19, 2002 to February 11, 2013) for the Wheeler Water Treatment Plant’s finished water indicated elevated levels of TCE, PCE, cis-1,2-DCE, chloroethane, and p-dichlorobenzene. Table 4-1 provides a summary of the VOC elevated levels detected in the finished water at the Wheeler Water Treatment Plant.

Table 4-1 Wheeler Water Treatment Plant SDWIS Data from March 19, 2002 to February 11, 2103. Elevated Volatile Organic Compounds (VOCs) only.

Analyte	MCL (ppm)	Date Sampled	Result (ppm)
Cis-1,2-Dichloroethylene (CAS#156-59-2)	0.07		
		5/11/11	0.0007
		7/14/10	0.0007
		5/11/10	0.0009
		3/13/06	0.0011
		11/22/05	0.0009
Trichloroethylene (CAS#79-01-6)	0.005		
		5/11/11	0.002
		11/16/10	0.0007
		7/14/10	0.0009
		5/11/10	0.0009
		9/19/06	0.0011
		3/13/06	0.0012
		11/22/05	0.0008
		5/25/05	0.0006
		3/8/05	0.001
		12/1/04	0.0007
		8/30/04	0.0011
Tetrachloroethylene (CAS#127-18-4)	0.005		
		7/14/10	0.0006
		3/13/06	0.0005
		8/30/04	0.0005
Chloroethane (Ethyl Chloride) (CAS#75-00-3)	None		
		11/22/05	0.001
P-Dichlorobenzene (1,4-Dichlorobenzene) (CAS#106-46-7)	0.075		
		12/1/06	0.0009

There are a total of 131 private wells located within a 2 mile radius of the RWF Center. Residential wells and wells owned by the City of Anderson make up the largest percentage of this total, 38% and 34%, respectively. There are five (5) wells owned by dry cleaners located west-southwest and north of the RWF Center. There are six (6) wells located within ¼ mile radius from the RWF Center. The closest well is a residential well located 607 feet to the east (across from Killbuck Creek) at a depth of 135 feet. The Indiana Division of Natural Resources (IDNR) lists this well's location as "known" in a bedrock aquifer.

Section 4.1.1 Site Geography

Section 4.1.1.1 Regional Background

The project area is situated within the central Indiana Tipton Till Plain physiographic unit of the White River Basin. The unconsolidated surface soils were formed by a series of Pleistocene-age glacial outwash deposits that are 50 to 100 feet thick. The bedrock consists of Silurian dolomite and limestone underlain by undifferentiated Ordovician shale. There are no discussions regarding karst geology in the Anderson area.

Section 4.1.1.2 Hydrostratigraphy of Study Area

Unconsolidated Stratigraphy

The soils along the White River and Killbuck Creek consist of the Fox-Eel association, the Miami-Celina and Fox till substratum association, and the Brookston-Crosby association. All of these soils are nearly level along outwash plains to strongly sloping on terraces and within flood plains formed in medium-textured glacial drift.

Bedrock Stratigraphy

Anderson lies along the northeastern flank of the Cincinnati Arch between the Illinois Basin to the southwest and the Michigan Basin to the north. Bedrock beneath the site strikes north-northwest, generally dipping north toward the Michigan Basin - about 20 feet to the mile. Bedrock is composed of the Silurian aged Wabash Formation, Salamonie Dolomite, Cataract Formation, and Brassfield Limestone. All of these formations are light gray to white, hard, porous, and approximately 250 feet thick. Underlying the limestone is dark-gray to pale greenish-gray Ordovician shale.

The Fortville Fault, approximately 5.5 to 6.0 miles west of the site, is an inactive normal fault that strikes north-northeast through Madison County. The southeastern block of the fault is downthrown and offsets of up to 60 feet in the Ordovician shale are present at a depth of approximately 300 ft-bgs. Due to the depth of the shale formation and Pleistocene ice advances that redefined the surficial geology in the area, the Fortville Fault has little effect upon the unconsolidated and bedrock aquifers near the well field. Therefore, the Fortville Fault is not considered an aquifer boundary or

discontinuity. There are no other aquifer discontinuities or boundaries, such as a mountain range, ocean, etc., within a 4 mile radius of the site.

Hydrogeology

The direction of ground water flow near the site is toward the White River based upon the location of the river, local topography, and available geologic cross-sections. As shown by the City of Anderson's WHPA delineation model, ground water then flows the same direction as the White River as it reaches equal hydraulic head elevations with the river stage elevation.

Significant ground water sources are present in the Anderson area along the White River and ground water productivity ranges from fair to good. The surficial aquifer is generally unconfined along the White River and is hydraulically connected to buried sand and gravel aquifers that extend beneath the river. Recharge to the aquifer is from direct infiltration of precipitation and, at times, from the streams. The streams are connected hydraulically to the aquifer, usually gaining water from it; however, during drought or heavy pumping nearby, the streams can function as recharge sources for the aquifer. Many hydrologic studies in the northern part of the basin were based on the assumption that the average hydraulic conductivities of the buried and discontinuous sands and gravels were similar to those of the surficial sands and gravels. Reported hydraulic conductivities of the confined buried and discontinuous aquifers range from 200 to 390 feet per day and well yields of buried and discontinuous aquifers typically range from 10 to 250 gallons per minute (gpm).

Bedrock aquifers in the Silurian limestone sequence are capable of yielding from 100 to 600 gpm or 0.15 to 0.9 million gallons per day (mgd). Locally, thicker inter-till sand and gravel aquifers are present that are capable of meeting small municipal and industrial needs. These sources are normally capable of yielding up to 300 gpm.

The project area is underlain by two aquifers, an outwash aquifer and a bedrock aquifer. These are generally connected, creating unpredictable conditions for contaminant migration patterns. Although the aquifers have different physical properties, due to their clear connectivity, they can be considered a single, combined aquifer.

Ground Water Usage

Both outwash (sand and gravel) and bedrock (limestone and dolomite) aquifers are used to meet regional water demands. In the vicinity of Anderson, most water wells are completed at depths of 150 feet or less. Wells generally encounter gravel at about 30 feet below ground surface and a second aquifer is present in much of the area at a depth of 65 to 100 feet. In some places, the intervening till is missing and both upper and lower gravels seem to be continuous. A few deeper wells have penetrated gravel, but generally the sediments that fill the deeper parts of the buried valleys in Madison County are fine sand, silt, and clay. Virtually all Silurian limestone in the county are

medium bedded and well jointed and have some degree of weathering near the surface that provides good secondary permeability. The unconsolidated and bedrock aquifers are connected. Bedrock wells are as deep as 150 to 350 feet, but only the upper 100 feet is generally considered permeable. Available well logs do not indicate that karst features are present in the area. Ordovician shales that underlie the thick Silurian limestone and dolomite aquifers contain little water and are often considered aquitards.

Using well records spanning six (6) years between 2005 through 2010 (inclusive), the average pumping rate for the six (6) wells set in the unconsolidated glacial outwash ranges from 494 gpm to 807 gpm while the combined average pumping rate for the two bedrock wells is 485 gpm.

Section 4.1.2 August 2013 Sampling Event

Between the dates of March 19, 2002 and February 11, 2013, TCE, PCE, and cis-1,2-DCE, chloroethane, and p-dichlorobenzene were detected at elevated levels in the finished water at the Wheeler Water Treatment Plant. These contaminants in the finished water have not exceeded the MCL.

The Anderson Water Department has not sampled the individual wells which supply the Wheeler Water Treatment Plant for a number of years. Therefore, current analysis at each well was necessary to determine which well or wells are the most affected by an unknown VOC source.

On August 7, 2013, the Site Investigation Program staff sampled the unfinished water of six (6) wells: Ranney #1, Ranney #2, Ranney #4, Ranney #5, Elder #1, and Elder #2 for VOCs. Field duplicate samples were used to establish the representativeness of field sampling (i.e., the homogeneity and sample variability). A ground water field duplicate sample was collected from Ranney #4 and analyzed for VOCs. The ground water duplicate sample results for this study were in good agreement. Field blanks (trip and/or equipment) are used to identify sample contamination resulting from sampling equipment, sample containers, chemical preservatives, and the handling and transportation of samples. A trip blank was submitted and analyzed for VOCs. VOCs were non-detect in the trip blank sample. An equipment blank was not collected or necessary since ground water samples were directly collected into the vials. Ground water samples were analyzed for VOCs by EPAMethod 524.2. All quality assurance/quality control (QA/QC) criteria were adequate. The laboratory used was Heritage Environmental Services, LLC.

Results

The ground water sample results indicated concentrations of PCE in Ranney #5 at 5.6 parts per billion (ppb), TCE in Ranney #1 at 11 ppb, and vinyl chloride (VC) in Ranney #4 at 2 ppb, at or above their respective MCL levels. All other detected levels of Chloromethane, TCE, VC, cis-1,2-DCE, and 1,1-dichloroethane (DCA) were below their respective MCL levels. The sampling event data and Quality Assurance Report is

located in Attachment F. Figure 4 in Attachment A provides a map of the well locations with the detected VOC levels. Table 4-2 provides a summary of the August 7, 2013, VOC Sampling Event results.

Table 4-2. August 7, 2013 VOC Sampling Event Results Summary (ppb).

	Ranney #1	Ranney #2	Ranney #4	Ranney #4 (DUP)	Ranney #5	Elder #1	Elder #2
Tetrachloroethene					5.6		
Chloromethane	0.77	0.65	0.55	0.85	0.57	1.4	0.67
Trichloroethene	11		1.3	1.3			
Vinyl Chloride			1.9	2			
Cis-1,2-Dichloroethene	0.84		4.8	4.9			
1,1-Dichloroethane				0.52			

Section 4.2 Surface Water

The West Fork of the White River and Killbuck Creek are the two water bodies adjacent to the Ranney Well Field. The West Fork of the White River begins in Randolph County and is approximately 273 miles long. For its first few miles, it travels north, then turns west through Muncie and Anderson before flowing south through Noblesville to Indianapolis. It joins the East Fork of the White River near Petersburg, Daviess County, Indiana and travels another 45 miles southwest before joining the Wabash River. The two forks of the White River create a large watershed that drains fifty percent of Indiana's counties (either in total or in part). The West Fork of the White River generally flows from the east to west in the project area and Killbuck Creek flows from north to south into the West Fork of the White River. Little Killbuck Creek joins Killbuck Creek north of East Cross Street. The 15 mile surface water pathway from the site is depicted in Figure 5 in Attachment A. The Ranney Well Field is located in a Federal Emergency Management Agency (FEMA) Flood Hazard Area. No surface water or sediment samples were collected as part of this Preliminary Assessment.

Section 4.2.1 Drinking Water Threat

There are no known drinking water source intakes within the 15 mile surface water pathway. The residents located within a 4 mile radius of the RWF Center obtain their drinking water from either municipal wells or private wells. A threat to drinking water via the surface water pathway is not evident.

Section 4.2.2 Human Food Chain Threat

The human food chain pathway generally targets fisheries where consumption of contaminated species may occur. The West Fork of the White River and Killbuck Creek are the target fisheries located in the Ranney Well Field. IDEM's Office of Water Quality conducted a Total Maximum Daily Load (TMDL) assessment for both the West Fork of

the White River and Killbuck Creek. The assessment found PCBs and mercury present in the edible fish tissue at levels exceeding Indiana's human health criteria for these contaminants. Mercury was only detected in the 10 to 15 inch Largemouth Bass in the West Fork of the White River.

Killbuck Creek, in Madison County, has one (1) fish species with assigned Fish Consumption Advisories for PCBs. The West Fork of the White River, in Madison County, has ten (10) fish species with assigned Fish Consumption Advisories for PCBs. Table 4-3 details the 2010 Indiana Fish Consumption Advisory for PCB contamination for Killbuck Creek and the West Fork of the White River in Madison County. However, neither mercury or PCBs are considered to be contaminants of concern at the Ranney Well Field Site.

Table 4-3. Killbuck Creek and West Fork of the White River (Madison County) 2010 Fish Consumption Advisory.

Species	River	Advisory
Common Carp	Killbuck Creek	Group 2 ¹ – Up to 25 inches Group 3 ² – 25 + inches
Black Bullhead	West Fork of the White River	Group 3 – 9 + inches
Bluegill	West Fork of the White River	Group 3 – 6 + inches
Largemouth Bass	West Fork of the White River	Group 3 – 10 to 15 inches Group 4 ³ – 15 + inches
Channel Catfish	West Fork of the White River	Group 5 ⁴ – All sizes
Green Sunfish	West Fork of the White River	Group 3 – 6 + inches
Quillback	West Fork of the White River	Group 3 – 13 to 18 inches Group 4 – 18 + inches
Redhorse Species	West Fork of the White River	Group 3 – Up to 16 inches Group 4 – 16 + inches
Rock Bass	West Fork of the White River	Group 3 – 9 + inches
Spotted Sucker	West Fork of the White River	Group 3 – 11 to 13 inches Group 4 – 13 + inches
White Sucker	West Fork of the White River	Group 3 – 15 + inches

¹. Group 2 Fish Consumption Advisory limits consumption to one meal per week (52 meals per year) for adult males and females. One meal per month for women who are pregnant or breast-feeding, women who plan to have children, and children under the age of 15.

². Group 3 Fish Consumption Advisory limits consumption to one meal per month (12 meals per year) for adult males and females. Women who are pregnant or breast-feeding, women who plan to have children, and children under the age of 15 should not eat the fish under the advisement.

³. Group 4 Fish Consumption Advisory limits consumption to one meal every two months (6 meals per year) for adult males and females. Women who are pregnant or breast-feeding, women who plan to have children, and children under the age of 15 should not eat the fish under the advisement.

⁴. Group 5 Fish Consumption Advisory - No consumption – do not eat.

Section 4.2.3 Environmental Threat

The U.S. Fish & Wildlife Service National Wetlands Inventory identifies a Freshwater Forest/Shrub wetland extending north from Ranney #1 to south of Ranney

#3. A second Freshwater Forest/Shrub wetland is identified at the Ranney #5 location. A map depicting the identified wetlands is located in Attachment A, Figure 6. The City of Anderson developed the Killbuck Wetland on the east side of Killbuck Creek where it enters the West Fork of the White River. This wetland is not listed on the U.S. Fish & Wildlife Service National Wetlands Inventory.

On November 4, 2013, the IDNR, Indiana Natural Heritage Data Center, completed a review of the area surrounding the RWF Center for any significant natural features or endangered, threatened, and rare species that may inhabit the area (Attachment G). There is one (1) listed federal and state endangered species (Clubshell Mollusk) located within Township 19 North, Range 7 East, Section 12 in Big Killbuck Creek. Big Killbuck Creek is the same as Killbuck Creek. Ranney #4, Ranney #5, and Ranney #6 are located in this same area. The Clubshell Mollusk is considered a significant target due to being located in Killbuck Creek within the 15 mile target distance limit.

The Shadyside Recreation Area is located along Killbuck Creek and covers 87 acres (63 lake acres) and is located within the Ranney Well Field. The Recreation Area is used for hiking, birdwatching, and fishing and was first established around 1934. The Athletic Park is located along the West Fork of the White River (east of Ranney #6) and covers 26 acres. This park was established in the 1920s. The Friends of the White River undertook a West Fork Mapping Project and identified the recreational use areas in or near the Ranney Well Field (Attachment A, Figure 7).

Section 4.3 Soil Exposure

No soil samples were collected as part of this PA, nor were observed release criteria met for this pathway. No confirmed soil release has been documented.

Section 4.4 Air Route

No air samples were collected as part of this PA, nor were observed release criteria met for this pathway. No confirmed air release has been documented.

SECTION 5.0 SUMMARY

The City of Anderson Water Department is classified as a community water system and serves a population of 58,400 from a system of 17 wells that supply water to two (2) water treatment plants (Lafayette and Wheeler). The Ranney Well Field contains eight (8) municipal wells which supply unfinished water to the Wheeler Water Treatment Plant. All eight (8) wells are operated daily and the supplied unfinished water is manifolded at the Wheeler Water Treatment Plant prior to distribution. Elevated VOC levels were detected in the unfinished water in 1988-1992 and the finished water in 2004, 2005, 2006, 2010, and 2011. The elevated VOC levels in the Wheeler Water Treatment Plant have not exceeded the MCL. The Wheeler Water Treatment Plant supplies sixty percent (60%) of the City of Anderson's daily water supply.

There are a total of 131 private wells located within a 2 mile radius of the RWF Center. Residential wells and wells owned by the City of Anderson make up the largest percentage of this total, 38% and 34%, respectively. There are five (5) wells owned by dry cleaners located west-southwest and north of the RWF Center. There are six (6) wells located within ¼ mile radius from the RWF Center.

On December 11, 1992, the Anderson Water Utility submitted a VOC Vulnerability Assessment for the Lafayette Well Field and the Ranney Well Field. The assessment indicated that between 1988 and 1992, VOCs were detected in five wells: Ranney #1, Ranney #2, Ranney #4, Ranney #5, and Lawler. The Lafayette Water Treatment Plant wells did not indicate elevated VOCs. The assessment lists nine (9) possible sources for the VOC contamination noted in the Ranney Well Field. Six (6) of the possible sources are gasoline underground storage tanks, however, three (3) possible sources are old landfills. The locations for these landfills are estimated as being right next to Ranney #3, Ranney #5, and Ranney #6. A review of Anderson Telephone Books for the years 1959, 1975, 1981, and 1985 revealed forty (40) dry cleaners and forty-six (46) auto body repair/paint businesses within a 2 mile radius of the RWF Center.

On August 7, 2013, the Site Investigation Program sampled the unfinished water of six (6) wells: Ranney #1, Ranney #2, Ranney #4, Ranney #5, Elder #1, and Elder #2 for VOCs. The ground water sample results indicated concentrations of PCE in Ranney #5 at 5.6 parts per billion (ppb), TCE in Ranney #1 at 11 ppb, and VC in Ranney #4 at 2 ppb, at or above their respective MCL levels. All other detected levels of chloromethane, TCE, VC, cis-1,2-DCE, and 1,1-dichloroethane (DCA) were below their respective MCL levels. The most likely pathway of concern for Anderson residents would be the ground water pathway.

SECTION 6.0 REFERENCES

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- Jeff Hall August Results and 2 Questions*. Email to: Linda McClure. August 10, 2013. Personal Communication.
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- Schermerhorn, Edward J., et. al., *Soil Survey of Madison County, Indiana*, United States Department of Agriculture Soil Conservation Service: 1967.
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<<http://www.census.gov/2010census>>. [Accessed November 14, 2013].
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- William J. Wayne, et. al., *Urban Geology of Madison County, Indiana*, State of Indiana Department of Natural Resources Geological Survey Special Report 10, Environmental Study 7, Bloomington, Indiana: 1975.

Attachment A

- Figure 1. Wheeler Water Treatment Plant - Site Location Map
- Figure 2. Ranney Well Field Location Map (Confidential)
- Figure 3. 4 Mile Radius Map
- Figure 4. Well Location with Detected VOC Levels (Confidential)
- Figure 5. 15 Mile Surface Water Pathway Map
- Figure 6. National Wetlands Inventory Map (Confidential)
- Figure 7. Friends of the White River - West Fork Mapping Project

Wheeler Water Treatment Plant - Site Location Anderson, Madison County, Indiana

Figure 1



This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

Mapped By: Lorraine Wright,
Office of Land Quality
Date: December 4, 2013

Sources:

Non Orthophotography Data

- Obtained from the State of Indiana Geographic Information Office Library.

- Approximate Site Boundary comprised of the following parcels:
48-12-18-900-001.000-003 48-12-18-202-012.000-003
48-12-18-202-013.000-003 48-12-18-900-002.000-003

Orthophotography - 2005 Statewide Orthophotography Project (One foot)

Map Projection: UTM Zone 16 N **Map Datum:** NAD83



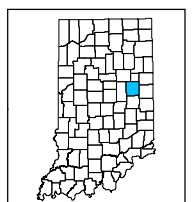
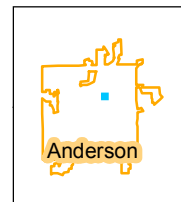
0 100 200 Feet

0 30 60 Meters



Site Vicinity

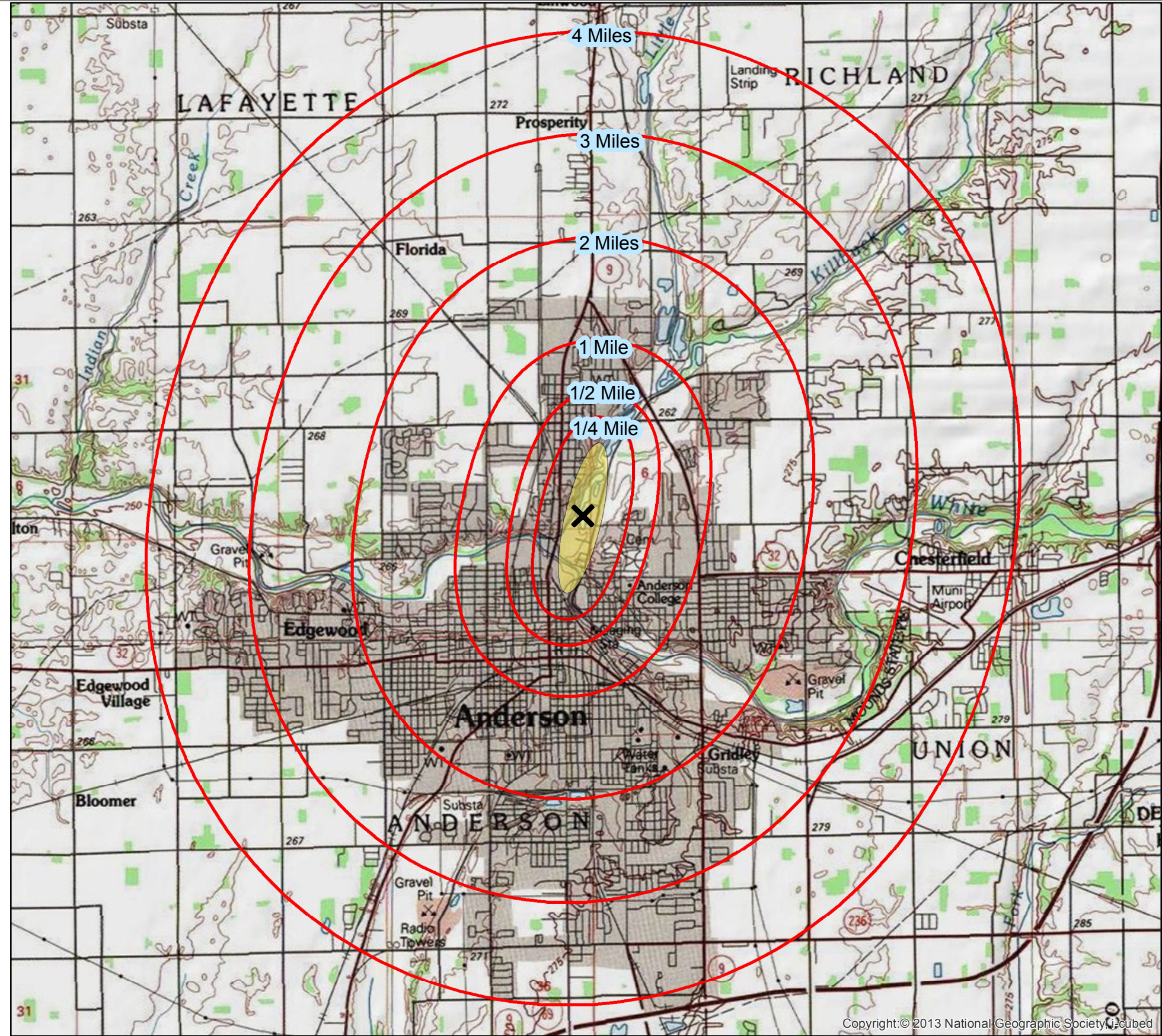
Madison County, IN



Approximate Center of Site



Approximate Site Boundary



**Four Mile Radius Map, Ranney Well Field
Ground Water Plume, Anderson,
Madison County, IN**

**-85° 40' 26.86"
40° 07' 19.40"**

(Approximate Center of Site)

Buffer Distance	Adjusted Population
0.25 Mile	1,981
0.5 Mile	2,086
1 Mile	6,449
2 Mile	16,272
3 Mile	11,950
4 Mile	10,220
Total Adjusted Population	48,958

Mapped by: Lorraine Wright, IDEM, Office of Land Quality, Science Services Branch, Engineering & GIS Services **Date:** October 29, 2013

Sources:
IDEM 4 Mile Mapper Application
Indiana Geographic Information Officer (GIO) Data Library
USGS Digital Raster Graphics 1:24,000 topographic map
Census block group 2010 total population

Disclaimer: This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.
There are known sources of error in the population estimates presented on this map including:
-The Census 2010 block group population data is out of date, and is itself an imperfect estimate of population.
-The adjusted population estimate derived from the Census 2010 block group data assumes that the population is evenly distributed in each block group polygon.
-The Census 2010 block group population has been clipped to include Indiana data only.

Method of Estimating Population: The adjusted population estimate is the sum of Census 2010 block group populations. The adjusted population estimate (TOTPOP field) is adjusted to include only the areas of the block groups contained inside the buffers. The adjusted population estimate assumes that the population is evenly distributed in each block group polygon. The specific procedure used in this analysis is as follows:
1. The point for the center of the site is selected interactively by the user through the 4 Mile Mapper model or a polygon is digitized through the 4 Mile Mapper Polygon model.
2. The user initiates the 4 Mile Mapper model to perform the rest of the multi-step analysis which is described in the following steps.
3. The study area point or polygon is buffered at 1/4, 1/2, 1, 2, 3 and 4 miles.
4. The original area of the census block polygons is calculated and stored.
5. The buffers are used to clip the census block group polygons. This is a new area referred to as the shape area. The shape area has the attribute records associated with the original census block group polygon with the area of the new polygon area.
6. The shape area of the census block polygons is divided by original area of the census block polygons to calculate the percent change.
7. The percent change result is then multiplied by the population of the original census block to yield a calculated population for the new polygon. For example: Block Group A with an area of 10 square miles and a population of 200 people is split into 2 polygons by the 4 mile buffer ring. The area of the block group inside the 4 mile buffer is 2 square miles, or 20% of the area of the original 10 square mile block group. Assuming the population is uniformly distributed in Block Group A, the population from Block Group A that is within the 4 mile buffer ring should also be 20% of the total population for the block group. Twenty percent of 200 is 40 people. (2 ÷ 10 × 200 = 40)
8. The newly calculated population statistics are associated in a database table that is converted into a layer file that is displayed in the Four Mile Radius Map. The new population figures from the layers (attribute tables) are then copied into a spreadsheet that subtracts the population figure from the previous buffer. This is done by taking the population for each buffer distance and subtracting the population of the next smaller buffer distance to provide a population figure for the donut area bounded by each pair of consecutive buffer distances (e.g. 0 to 1/4, 1/4 to 1/2, 1/2 to 1, 1 to 2...). An adjusted population table is labeled and pasted into the Four Mile Radius Map.

The main code that repeats over and over for the 4Mile Mapper model is: Buffer>Clip>Add Fields>Calculate Field>Dissolve

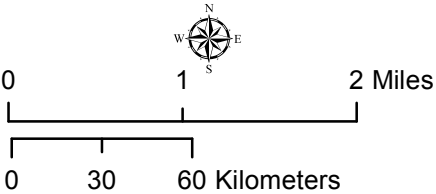
All models were developed by E.J. McNaughton, IDEM GIS Coordinator



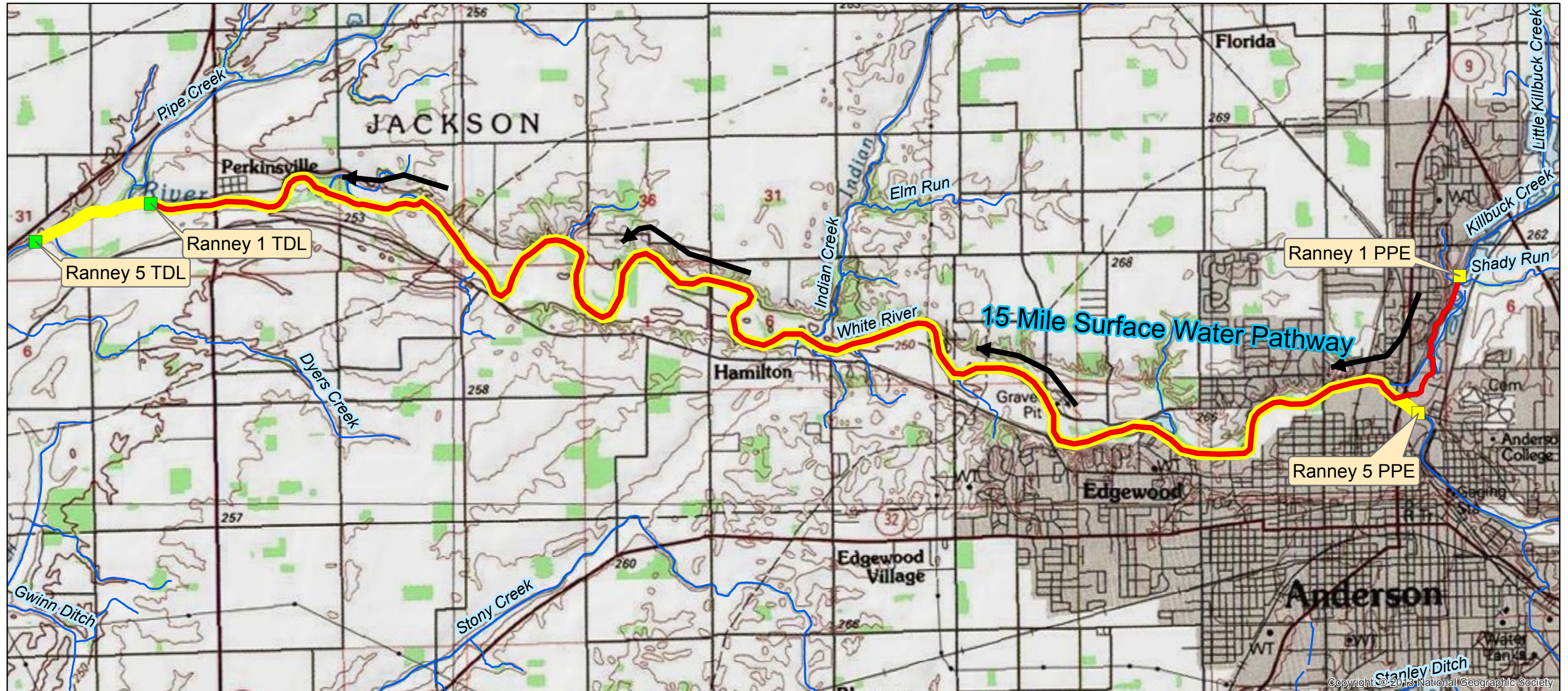
Ranney Well Field
Ground Water Plume,
Anderson,
Madison County, IN.



- Approximate Center
- Buffer
- Ranney Wellfield Vicinity



15 Mile Surface Water Pathways, Ranney Well Field Ground Water Plume, Program ID: INN000510915, Anderson, Delaware County, Indiana



Sources:

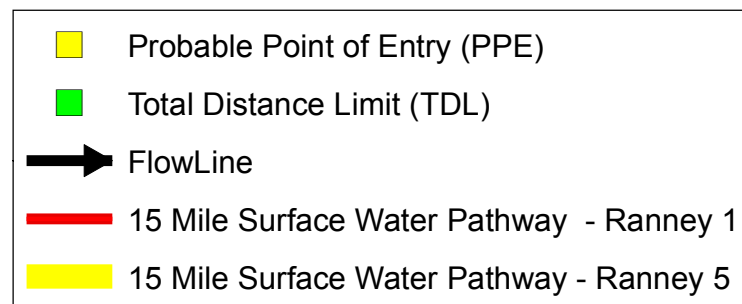
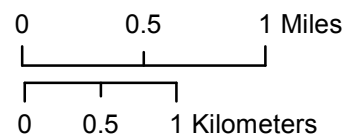
Non Orthophotography Data

- Obtained from the State of Indiana Geographic Information Office Library
- Streams (NHD High Resolution Streams, USGS, IN)
- Pahtways were digitized 15 miles down stream from the PPE.

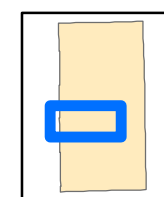
Topographic Map

- Source Topo: NGS Topo US 2D

Map Projection: UTM Zone 16 N **Map Datum:** NAD83



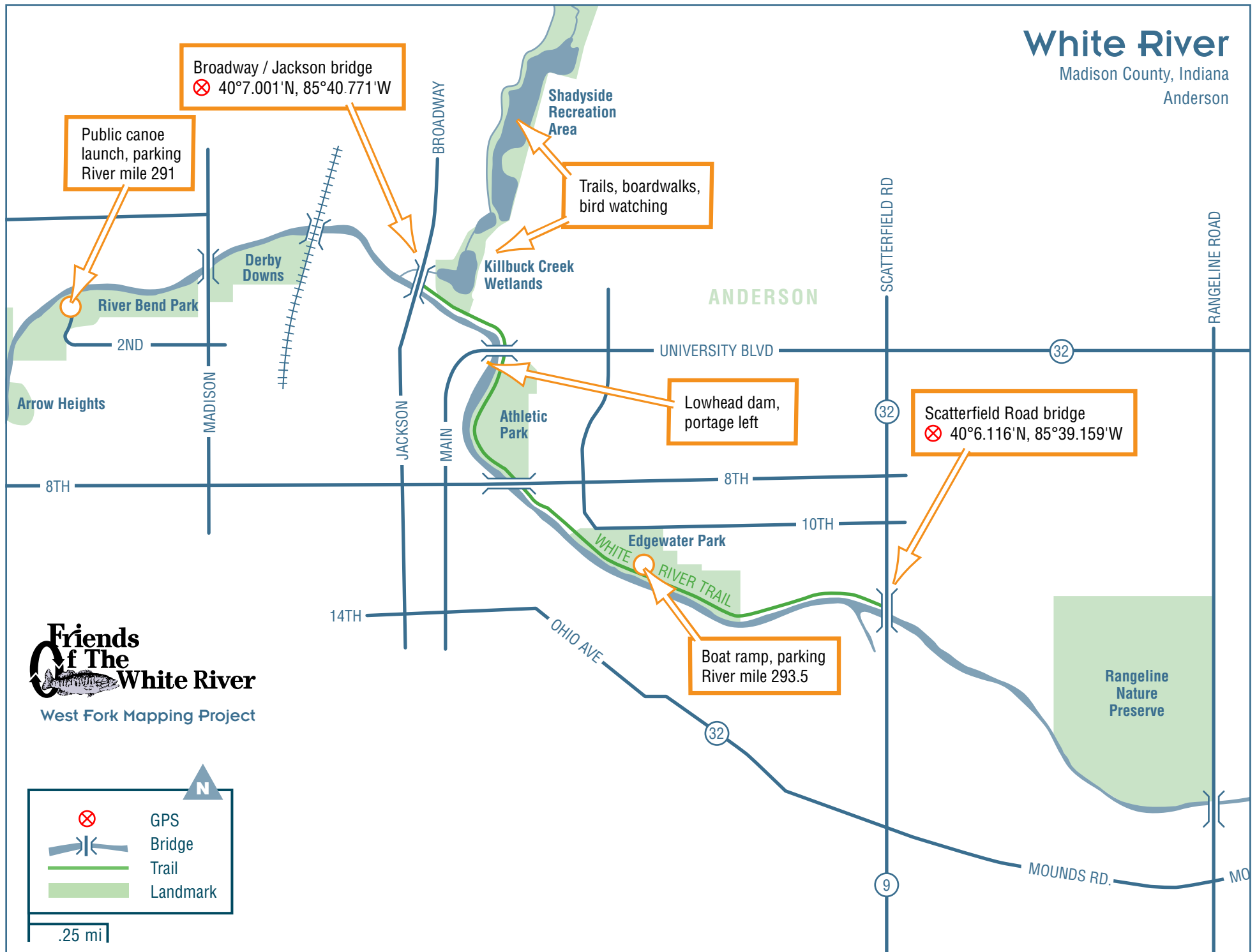
Madison County



This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

Mapped By: Lorraine Wright,
Office of Land Quality, IDEM
Date: 10/28/2013

Figure 7



Attachment B

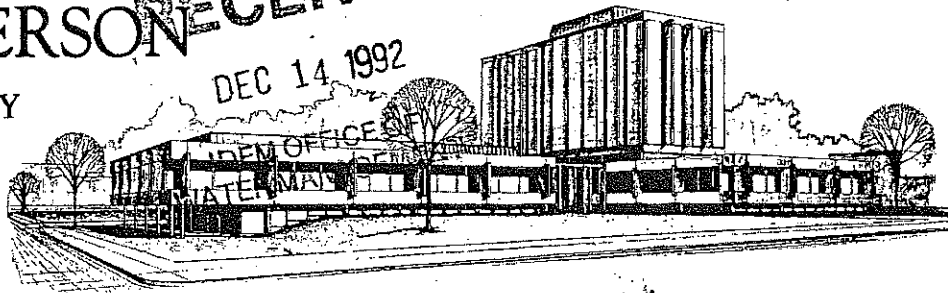
City of Anderson Volatile Organic Compound
Vulnerability Assessment Worksheet (1992)

PD 5248002
CITY of ANDERSON

RECEIVED

DEC 14 1992

ANDERSON WATER UTILITY
THOMAS A. BREWER
SUPERINTENDENT
550 Baxter Road
Anderson, IN 46011



PD
VFC# 13114489
Pg 27-59 of 280

December 11, 1992

TO: Arnold J. Viere, Chief
Public Water Supply Field Inspection Section
I.D.E.M.

FROM: Thomas A. Brewer, Superintend
Anderson Water Utility

RE: Summary for V.O.C. Vulnerability Assessment

Dear Arnold,

Please find enclosed, the V.O.C. vulnerability assessment worksheet and maps.

As you will notice, the source of supply is divided into two halves. The first is the Lafayette Well Field and Treatment Plant. The second is the Ranney Well Field, including the Lawler and Nortons, supplying the Wheeler Ave. Plant.

Summary - Lafayette Well Field

For all practical purposes, the only points of possible V.O.C. contamination are marked in orange and numbered P-1 through P-7.

For identification sake, P-1, P-2 and P-4 are personal storage tanks owned by farmers around the area. Each of these tanks is above ground and only a few hundred gallons each.

Item P-5 is a farmers co-op distribution facility for gasoline and fuel oil. This array of above ground storage tanks hosts nearly 200,000 gallons of various fuels and oils.

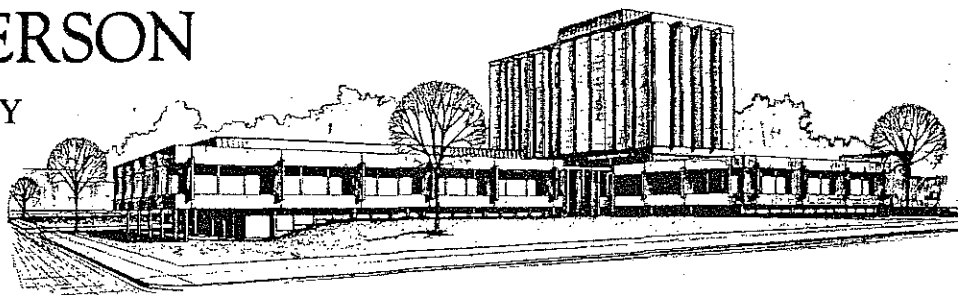
Items P-6 and P-7 are gasoline stations with underground storage tanks.

Due to past experiences, we believe the ground water to be flowing in a south - southwest direction. This has not been confirmed to the degree of indicating in the affirmative on the assessment worksheet.

RECD: IDEM/DWB

CITY of ANDERSON

ANDERSON WATER UTILITY
THOMAS A. BREWER
SUPERINTENDENT
550 Baxter Road
Anderson, IN 46011



We have an informal well head protection plan consisting of four acre ownership around each well and therefor physical control. These sites are visited and inspected each day by our Well Man.

We would appreciate some guidelines and recommendation as such to massage this into an approved well head protection program.

In making your determination, please be advised, the Lafayette Treatment Plant has 4 - 10 Tray Areators in the treatment process. These Areators, for all practical purposes, cannot be bypassed and would therefore be a safety factor should a slug containing V.O.C.'s ever become present.

As per the assessment worksheet, no V.O.C.'s have ever been detected in the Lafayette Well Field.

Summary - Ranney Well Field

The enclosed map shows the Ranney Well Field. This well field consists of Ranney No. 1, 2, 4 and 5 as well as Norton No. 1 and 2 and the Lawler Well. Please note that although Ranney No. 3 is shown it has been out of service and dismantled since the late sixties due to hydrocarbon contamination.

The assessment worksheets are not all inclusive in that the Ranney Wells, including the Lawler, have all shown various degrees of V.O.C. contamination. These amounts have fluctuated in concentration as well as dates of occurrences. The only exceptions to this are Nortons No. 1 and 2, which have never shown any V.O.C.'s.

The points of possible, or the culprits of, V.O.C. contamination are as follows:

Items marked P-1, P-2 and P-3 are old gasoline tanks now out of service and presumably removed.

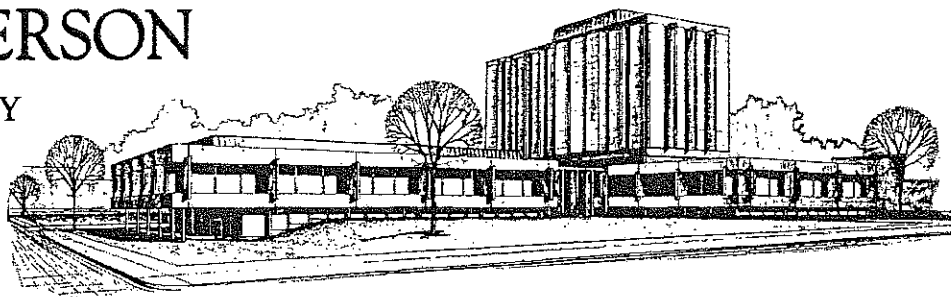
Items P-7, P-8 and P-9 are underground gasoline tanks currently in use.

Items marked P-4, P-5 and P-6 are old landfills and present special concerns. The exact locations, sizes and numbers are only guesses. The maps and worksheets provided cannot be considered all inclusive.

Although Nortons No. 1 and 2 have never shown any traces of V.O.C. contamination, they are located approximately 200 feet down hill

CITY of ANDERSON

ANDERSON WATER UTILITY
THOMAS A. BREWER
SUPERINTENDENT
550 Baxter Road
Anderson, IN 46011



from an underground gasoline storage tank, owned and operated by Madison County Sheriffs Department.

Because the Ranney Well Field is located in the oldest section of town, many possible threats may have gone undetected simply because of changes in ground cover and businesses long since forgotten.

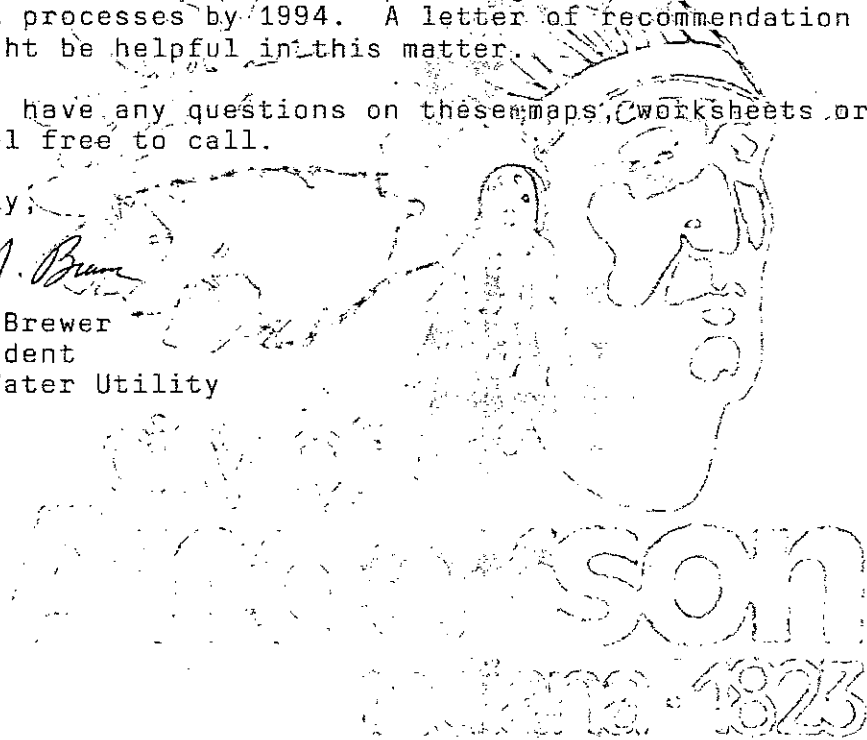
The Anderson Water Utility has been able to achieve compliance through blending the various wells plus the slight aeration that occurs at our upflow clarifiers. We are planning to add areators to the Wheeler Ave. Plant processes by 1994. A letter of recommendation from your agency might be helpful in this matter.

Should you have any questions on these maps, worksheets or summaries, please feel free to call.

Yours truly,

Thomas A. Brewer
Superintendent
Anderson Water Utility

TAB/nmt



Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson Zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Lafayette No. 1 (Hall well)

- | | YES | NO |
|---|----------|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | — | — |
| 1,000 feet | — | — |
| 5,000 feet <i>* see map & summary for well field</i> | <u>✓</u> | — |
| within recharge area | — | — |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|-----|----------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | — | <u>✓</u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN - 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

RECD IDEN/DWB

15 DEC 92 13: 56

RECEIVED
FBI - NEW YORK
DEC 15 1992

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson zip 46011
Contact Person Thomas A. Brewer

Well Number or Well Field ID Lafayette No. 2 (We born Well)

- | | YES | NO |
|---|-----|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | — | — |
| 1,000 feet | — | — |
| 5,000 feet | — | — |
| within recharge area | — | <u>✓</u> |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|-----|----------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | — | <u>✓</u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

15 DEC 92 13:55

15

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Lafayette No. 3 (SRackangast Well)

- | | YES | NO |
|---|-----|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | — | — |
| 1,000 feet | — | — |
| 5,000 feet | — | — |
| within recharge area | — | <u>✓</u> |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|-----|----------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | — | <u>✓</u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

REC'D IDEN/DWBI

15 DEC 92 13: 56

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson Zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Lafayette No. 4 (Tucker well)

- | | YES | NO |
|---|-----|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | — | — |
| 1,000 feet | — | — |
| 5,000 feet | — | — |
| within recharge area | — | <u>✓</u> |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | — | <u>✓</u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

REC'D IDEN/DWB

15 DEC 92 13: 56

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson Zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Lafayette No. 5 (Tuxford well)

- | | YES | NO |
|---|----------|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | <u>—</u> | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | <u>—</u> | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | <u>—</u> | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | <u>—</u> | <u>—</u> |
| 1,000 feet | <u>—</u> | <u>—</u> |
| 5,000 feet | <u>—</u> | <u>—</u> |
| within recharge area | <u>—</u> | <u>✓</u> |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|----------|----------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | <u>—</u> | <u>✓</u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

REC'D IDEN/DWB

15 DEC 92 13: 56

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson Zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Lafayette No 6 (Gahimer well)

- | | YES | NO |
|---|--------------------------------|------------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | — | — |
| 1,000 feet | — | — |
| 5,000 feet | <u>* See map & Summary</u> | <u>()</u> |
| within recharge area | — | — |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|-----|----------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | — | <u>✓</u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
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15 92 13: 56

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Lafayette No 7 (Jarret well)

- | | YES | NO |
|---|----------|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | — | — |
| 1,000 feet | — | — |
| 5,000 feet | <u>✓</u> | — |
| within recharge area | <u>✓</u> | — |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|----------|----------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | <u>✓</u> | <u>✓</u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

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15 DEC 92 13: 56

7

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson Zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Laffayette No 8 (Rock Well)

- | | YES | NO |
|---|------------|------------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | <u>---</u> | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | <u>---</u> | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | <u>---</u> | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | <u>---</u> | <u>---</u> |
| 1,000 feet * See map & summary | <u>---</u> | <u>✓</u> |
| 5,000 feet | <u>---</u> | <u>---</u> |
| within recharge area | <u>---</u> | <u>---</u> |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|------------|----------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | <u>---</u> | <u>✓</u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable ---
Vulnerable ---

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Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson Zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Ranney # 1

- | | YES | NO |
|---|-----|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | — | — |
| 1,000 feet | — | — |
| 5,000 feet | — | — |
| within recharge area | — | <u>✓</u> |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|----------|----|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | <u>✓</u> | — |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

1988 through 1992 Trichloroethylene - up to 4.51 ug/L

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

REC'D IDEN/DWB

15 DEC 92 13: 57



Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Lawler Well

- | | YES | NO |
|---|----------|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | — | — |
| 1,000 feet | — | — |
| 5,000 feet | <u>✓</u> | — |
| within recharge area | — | — |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|----------|----|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | <u>✓</u> | — |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

April 1990 Trichloroethylene 0.16 ug/L

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

REC'D IDEM/DWB1

15 DEC 92 13: 57

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Ranney No. 2

- | | YES | NO |
|---|----------|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | — | — |
| 1,000 feet | — | — |
| 5,000 feet | <u>✓</u> | — |
| within recharge area | — | — |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|----------|----|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | <u>✓</u> | — |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

May 1989 Trichloroethylene 0.26 ug/L

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

REC'D IDEM/DWB

15 DEC 92 13: 57

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Ranney No. 4

- | | YES | NO |
|---|----------|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | <u>—</u> | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | <u>—</u> | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | <u>—</u> | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | <u>✓</u> | <u>—</u> |
| 1,000 feet | <u>—</u> | <u>—</u> |
| 5,000 feet | <u>—</u> | <u>—</u> |
| within recharge area | <u>—</u> | <u>—</u> |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|----------|----------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | <u>✓</u> | <u>—</u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

1988 Through 1992 1,1,1-Trichloroethylene upto 0.29 ^{ug/L} Vinyl Chloride upto 12.66 ^{ug/L}
Trichloroethylene upto 1.02 ^{ug/L}

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable —
Vulnerable —

REC'D. IDEN/DWBI

DEC 92 13: 57

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Ranney No. 5

- | | YES | NO |
|---|----------|----------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | — | <u>✓</u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | — | <u>✓</u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | — | <u>✓</u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | <u>✓</u> | — |
| 1,000 feet | — | — |
| 5,000 feet | — | — |
| within recharge area | — | — |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|----------|----|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | <u>✓</u> | — |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

1988 To 1992 1,1,1-Trichloroethane upto 1.60 ug/L
Trichloroethylene upto 0.92 ug/L

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable
Vulnerable

REC'D IDEM/DWBH

15 DEC 92 13: 57

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson Zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Norton No. 2

	YES	NO
1. Has the direction of ground water flow been determined? If yes, state direction:	—	✓
2. Has a wellhead protection area (WHPA) been determined? If yes, provide drawing.	—	✓
3. Is there a wellhead protection program in place? If yes, please provide a copy of the plan.	—	✓
4. Are there any sources of chemical contamination located within:		
200 feet	✓	—
1,000 feet	—	—
5,000 feet	—	—
within recharge area	—	—

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

	YES	NO
5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years?	—	✓

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable
Vulnerable

RECD: IDEM/DWB

15 DEC 92 13: 57

Worksheet For
Volatile Organic Chemical
Vulnerability Assessment

PWS ID Number 5248002 Date June 1992
PWS Name Anderson Water Utility
Address 550 Baxter Road
City Anderson Zip 46011
Contact Person Thomas A. Brewer
Well Number or Well Field ID Norton No 1

- | | YES | NO |
|---|---------------|---------------|
| 1. Has the direction of ground water flow been determined?
If yes, state direction: | <u> </u> | <u> ✓ </u> |
| 2. Has a wellhead protection area (WHPA) been determined?
If yes, provide drawing. | <u> </u> | <u> ✓ </u> |
| 3. Is there a wellhead protection program in place?
If yes, please provide a copy of the plan. | <u> </u> | <u> ✓ </u> |
| 4. Are there any sources of chemical contamination located within: | | |
| 200 feet | <u> ✓ </u> | <u> </u> |
| 1,000 feet | <u> </u> | <u> </u> |
| 5,000 feet | <u> </u> | <u> </u> |
| within recharge area | <u> </u> | <u> ✓ </u> |

Enclose an area map showing sources of VOCs and distances from the well(s) within 5,000 feet and direction of ground water flow (if known).

NOTE: All volatile organic chemicals (VOCs) known to exist near the well need to be identified. These chemicals include gasoline, dry cleaning fluids, degreasers, paint thinners, etc., and can be found at dry cleaners, service stations, machine shops, warehouses and landfills. Improperly constructed or improperly abandoned wells constitute a potential entry point for ground water contamination.

- | | YES | NO |
|--|---------------|--------------|
| 5. Have any volatile organic chemicals (VOCs) (either the regulated or unregulated except the trihalomethanes) been detected during the last five (5) years? | <u> </u> | <u> ✓ </u> |

If yes, please list the dates of the occurrence, the name of the chemical and concentration detected.

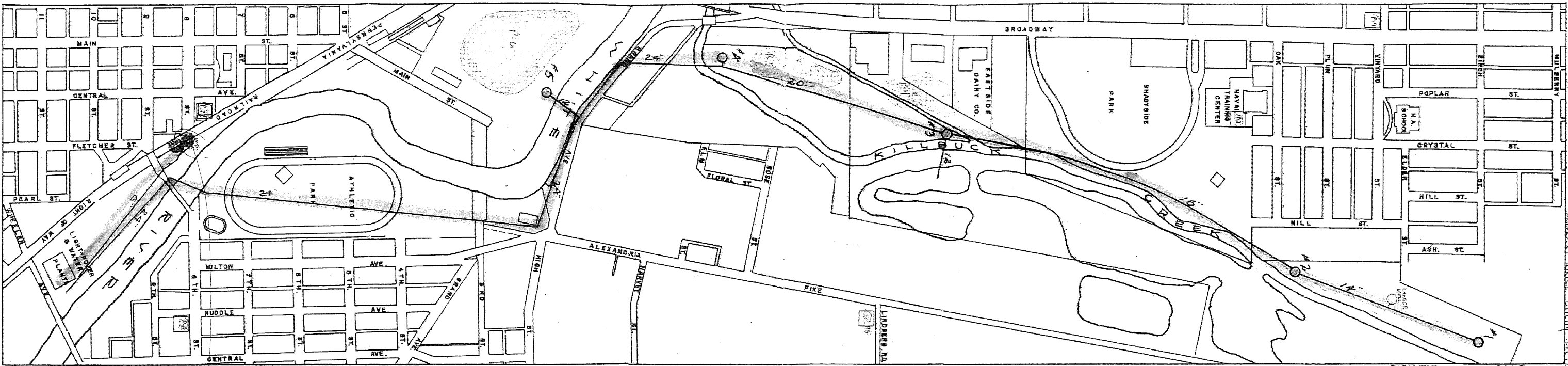
Please Return to:
Indiana Department of Environmental Management
Public Water Supply Section
Field Inspection Section
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206

FOR IDEM USE:

Not vulnerable
Vulnerable

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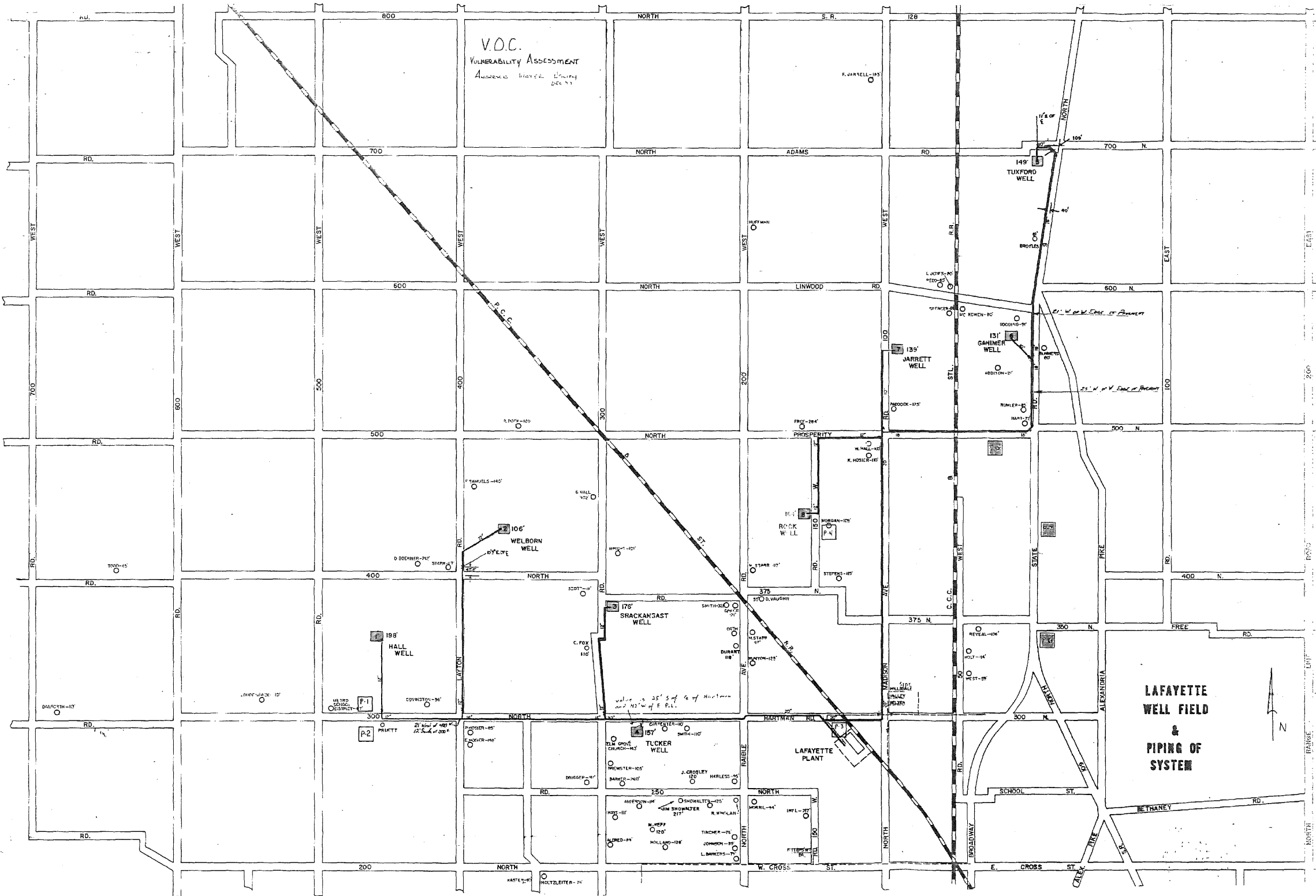
15 DEC 92 13: 57



NIEBN
142

VFC # 14920321
Date 12/11/1992

A



VFC#
14920322
12/14/1992

(B)

Attachment C

Wheeler Water Treatment Plant Population Served Documentation

McClure, Linda (IDEM)

From: Jeff Hall [jhall@cityofanderson.com]
Sent: Thursday, October 10, 2013 21:01
To: McClure, Linda (IDEM)
Subject: Re: August Results and 2 Questions

The Lawler well was taken off line in 2005. Elder 1 replaced it a year later.

The Wheeler Ave Treatment Plant tends to produce about 60% of the city's daily water and therefor supplies about 32,400 residents as opposed to the total population of 54,000.

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jhall@cityofanderson.com. Sent via iPhone

> On Oct 10, 2013, at 11:25 AM, "McClure, Linda (IDEM)" <lmccclure@idem.IN.gov> wrote:

>
> Hi Jeff,
>
> It took awhile but attached are the results from the August sampling event.
>

> A couple of questions:

- > 1. When was the Lawler well placed as inactive?
- > 2. What is the % or the population served by the Wheeler Plant?

>
> Thanks,

>
> Linda L. McClure
> Senior Environmental Manager
> Indiana Department of Environmental Management Office of Land Quality
> - Site Investigations Program
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> Indianapolis, Indiana 46204
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> <Raney Well Field August 2013 Sampling Results.pdf>

Attachment D

Safe Drinking Water Information System (SDWIS)/State Data for
Anderson Water Department

** Confidential **

Attachment E

Detailed Ranney Well Field Well Information

**** Confidential ****

Attachment F

August 7, 2013 Sampling Event Results and Quality Control/Quality Assurance
Information

**** Confidential ****

Attachment G

Indiana Department of Natural Resources (IDNR) Sensitive Environments Letter

**** Confidential ****